



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
HOUSTON BRANCH
10625 FALLSTONE RD.
HOUSTON, TEXAS 77099

January 12, 2016

MEMORANDUM

SUBJECT: Contract Laboratory Program Data Review
Raymond Flores
FROM: Raymond Flores, Alternate ESAT Regional Project Officer
Environmental Services Branch (6MD-HL)
TO: Katrina Coltrain, Remedial Project Manager (6SF-RL)

Site: WILCOX OIL

Case#: 45671

SDG#: MF6R05

The EPA Region 6 Environmental Services Branch ESAT data review team has completed a review of the submitted Contract Laboratory Program (CLP) data package for the referenced site. The samples analyzed and reviewed are detailed in the attached Regional data review report.

The data package is acceptable for regional use. Problems, if any, are listed in the report narrative. If you have any questions regarding the data review report, please contact me at (281) 983-2139.

ENVIRONMENTAL SERVICES ASSISTANCE TEAM

ESAT Region 6
10625 Fallstone Road
Houston, TX 77099

Alion Science and Technology

MEMORANDUM

DATE: January 11, 2016

TO: Marvely Humphrey, ESAT PO, Region 6 EPA

FROM: Sonya Meekins, Data Reviewer, ESAT

THRU: Dominic G. Jarecki, ESAT Program Manager, ESAT *DG*

SUBJECT: CLP Data Review

Contract No.: EP-W-13-026
TO No.: 002
Task/Sub-Task: 2-12
ESAT Doc. No.: 1602-212-0010
TDF No.: 6-16-113A
ESAT File No.: I-0679

Attached is the data review summary for Case # 45671

SDG # MF6R05

Site Wilcox Oil

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 REGION 6
 HOUSTON BRANCH
 10625 FALLSTONE ROAD
 HOUSTON, TEXAS 77099

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO.	45671	SITE	Wilcox Oil
LABORATORY	BON	NO. OF SAMPLES	13
CONTRACT#	EP-W-14-029	MATRIX	Soil
SDG#	MF6R05	REVIEWER (IF NOT ESB)	ESAT
SOW#	ISM02.3/MA 2542.1	REVIEWER'S NAME	Sonya Meekins
SF#	303DD2GG	COMPLETION DATE	January 11, 2016

SAMPLE NO.	MF6R05	MF6R09	MF6R13	MF6R17
	MF6R06	MF6R10	MF6R14	
	MF6R07	MF6R11	MF6R15	
	MF6R08	MF6R12	MF6R16	

	ICP-AES	ICP-MS	HG	CN
1. HOLDING TIMES	O	O	O	O
2. CALIBRATIONS	O	O	O	O
3. BLANKS	O	O	O	O
4. MATRIX SPIKES	O	O	O	O
5. DUPLICATE ANALYSIS	O	O	O	O
6. ICP QC	O	O	N/A	N/A
7. LCS	O	O	N/A	N/A
8. SAMPLE VERIFICATION	O	O	O	O
9. OTHER QC	N/A	N/A	N/A	N/A
10. OVERALL ASSESSMENT	O	O	O	O

O = Data had no problems.

M = Data qualified due to major or minor problems.

Z = Data unacceptable.

NA = Not applicable.

ACTION ITEMS:

AREAS OF CONCERN:

COMMENTS/CLARIFICATIONS
REGION 6 CLP QA REVIEW

CASE 45671 SDG MF6R05 SITE Wilcox Oil LAB BON

COMMENTS: This SDG consisted of 13 soil samples for total metals (by ICP-AES and ICP-MS), mercury, and cyanide analyses following SOW ISM02.3. The samples were also subject to Modified Analysis Request 2542.1 (MA 2542.1), which requested a lower CRQL for thallium. The sampler designated samples MF6R05 and MF6R15 for QC analyses. However, the laboratory only performed QC analyses on sample MF6R05.

The SOW requires that the soil sample results be adjusted for moisture content, which raised the adjusted QLs above the CRQLs specified in the SOW and MA 2542.1. The adjusted CRQLs were reported by the laboratory and are referred to as SQLs in this report.

The target analytes of concern with the desired CRQLs in parentheses are antimony (1.0 mg/kg), arsenic (0.5 mg/kg), cadmium (0.5 mg/kg), chromium (1.0 mg/kg), cobalt (0.5 mg/kg), selenium (2.5 mg/kg), and thallium (0.25 mg/kg). The analytes of concern detected above the SQLs are arsenic, chromium, and cobalt in all samples. The laboratory reanalyzed sample MF6R15 at the required 2X dilution because the %RI for IS SC-45 was above the QC limit in the undiluted analysis of this sample. The dilution had an acceptable %RI for IS SC-45, so the laboratory reported the results associated with IS SC-45 from the diluted analysis. The laboratory also diluted 3X and reanalyzed sample MF6R15 because of a high iron concentration.

S3VEM Review was performed for this data package as requested by the TDF. For this review option, laboratory contractual compliance and technical usability of the sample results are primarily determined by the EDM CCS Defect Report and NFG Data Review Results Report, respectively. The reviewer performs supplemental hardcopy forms checking and applies Region 6 guidelines, where necessary, to account for known limitations of the electronic review process. Therefore, the reviewer's final assessments may deviate from those found in the EDM reports. The NFG Data Review Results Report for the SDG is attached to this report as an addendum for additional information.

OVERALL ASSESSMENT: All results were acceptable. ESAT's final data qualifiers in the DST indicate the technical usability of all reported sample results. An Evidence Audit was conducted for the CSF, and the audit results were reported on the Evidence Inventory Checklist.

The laboratory was contacted for a reporting issue (see Resubmission Request). The laboratory resubmission will not impact the DST, so the DST included is the final version.

INORGANIC ACRONYMS

CCB	Continuing Calibration Blank
CCS	Contract Compliance Screening
CCV	Continuing Calibration Verification
CN	Cyanide
CRQL	Contract Required Quantitation Limit
CSF	Complete SDG File
DST	Data Summary Table
EDM	EXES Data Manager
HG	Mercury
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICP-AES	Inductively Coupled Plasma-Atomic Emission Spectroscopy
ICP-MS	Inductively Coupled Plasma-Mass Spectrometry
ICS	Interference Check Sample
ICV	Initial Calibration Verification
IS	Internal Standard
LCS	Laboratory Control Sample
MDL	Method Detection Limit
NFG	National Functional Guidelines
PE	Performance Evaluation
%D	Percent Difference
%R	Percent Recovery
%RI	Percent Relative Intensity
%RSD	Percent Relative Standard Deviation
QA	Quality Assurance
QC	Quality Control
QL	Quantitation Limit
RPD	Relative Percent Difference
RSCC	Regional Sample Control Center
S3VEM	Stage 3 Validation Electronic and Manual (previously called Modified CADRE Review)
S4VEM	Stage 4 Validation Electronic and Manual (previously called Standard Review)
SDG	Sample Delivery Group
SMO	Sample Management Office
SOW	Statement of Work
SQL	Sample Quantitation Limit
TAL	Target Analyte List

HEADER DEFINITIONS FOR INORGANIC EXCEL DST

CASE: Case Number
SDG: SDG Number
EPASAMP: EPA Sample Number
LABID: Laboratory File/Sample ID
MATRIX: Sample Matrix
QCCOD: Sample QC Code
SMPQUAL: Sample Qualifier
ANDATE: Sample Analysis Date
ANTIME: Sample Analysis Time
CASNUM: Compound CAS Number
ANALYTE: Compound Name
CONC: Compound Concentration
VALDQAL: Region 6 Inorganic Data Validation Qualifier (see Inorganic Data Qualifier Definitions on the next page)
UNITS: Concentration Units
ADJCRQL: Adjusted Contract Required Quantitation Limit Value
SMPDATE: Sampling Date
PRPDATE: Sample Preparation Date
LRDATE: Laboratory Receipt Date
LEVEL: Sample Level
PERSOLD: Sample Percent Solids
SMPWTVL: Sample Weight (Soil Samples)/Initial Sample Volume (Water Samples)
FINLVOL: Final Sample Volume
METHOD: Method of Analysis
STATLOC: Station Location

Disclaimer: ESAT verified the accuracy of the information reported in the Excel DST only for the following data fields: CASE, SDG, EPASAMP, MATRIX, ANALYTE, CONC, UNITS, ADJCRQL, VALDQAL, and PERSOLD. The data qualifiers in the VALDQAL column indicate the technical usability of the reported results.

INORGANIC DATA QUALIFIER DEFINITIONS

The following definitions provide brief explanations of the ESAT-Region 6 qualifiers assigned to results in the Data Summary Table.

- U Not detected at reported quantitation limit.
- L Reported concentration is between the MDL and the CRQL.
- J Result is estimated because of outlying quality control parameters such as matrix spike, serial dilution, etc., or the result is below the CRQL.
- R Result is unusable.
- F A possibility of a false negative exists.
- UC Reported concentration should be used as a raised quantitation limit because of blank effects and/or laboratory or field contamination.
- + High biased. Actual concentration may be lower than the concentration reported.
- Low biased. Actual concentration may be higher than the concentration reported.
- W The result should be used with caution. The result was reported on a dry weight basis although the sample did not conform to the EPA Office of Water definition of a soil sample because of its high water content (>70% moisture).

45671	MF6R05	MF6R17	5120128-13	S	Field_Sample	12/16/2015	13:44:07	7439-95-4	Magnesium	1280	mg/kg	582	12/08/2015	12/14/2015	12/09/2015	85.9	1	100	P	WIL-14	
45671	MF6R05	MF6R17	5120128-13	S	Field_Sample	12/16/2015	13:44:07	7440-09-7	Potassium	1550	mg/kg	582	12/08/2015	12/14/2015	12/09/2015	85.9	1	100	P	WIL-14	
45671	MF6R05	MF6R17	5120128-13	S	Field_Sample	12/16/2015	13:44:07	7440-23-5	Sodium	231	LJ	mg/kg	582	12/08/2015	12/14/2015	12/09/2015	85.9	1	100	P	WIL-14
45671	MF6R05	MF6R05	5120128-01	S	Field_Sample	12/10/2015	17:07:38	7439-97-6	Mercury	0.095	LJ	mg/kg	0.12	12/07/2015	12/10/2015	12/09/2015	83.3	0.5	100	CV	WIL-30
45671	MF6R05	MF6R06	5120128-02	S	Field_Sample	12/10/2015	17:10:10	7439-97-6	Mercury	0.25	mg/kg	0.12	12/07/2015	12/10/2015	12/09/2015	84.8	0.5	100	CV	WIL-29	
45671	MF6R05	MF6R07	5120128-03	S	Field_Sample	12/10/2015	17:12:43	7439-97-6	Mercury	0.12	U	mg/kg	0.12	12/07/2015	12/10/2015	12/09/2015	86.7	0.5	100	CV	WIL-05
45671	MF6R05	MF6R08	5120128-04	S	Field_Sample	12/10/2015	17:15:14	7439-97-6	Mercury	0.12	U	mg/kg	0.12	12/07/2015	12/10/2015	12/09/2015	86.7	0.5	100	CV	WIL-25
45671	MF6R05	MF6R09	5120128-05	S	Field_Sample	12/10/2015	17:17:45	7439-97-6	Mercury	0.12	U	mg/kg	0.12	12/07/2015	12/10/2015	12/09/2015	85.5	0.5	100	CV	TF-11-03
45671	MF6R05	MF6R10	5120128-06	S	Field_Sample	12/10/2015	17:20:16	7439-97-6	Mercury	0.12	U	mg/kg	0.12	12/08/2015	12/10/2015	12/09/2015	86.1	0.5	100	CV	TF-11-05
45671	MF6R05	MF6R11	5120128-07	S	Field_Sample	12/10/2015	17:22:48	7439-97-6	Mercury	0.12	U	mg/kg	0.12	12/08/2015	12/10/2015	12/09/2015	86.0	0.5	100	CV	TF-12-01
45671	MF6R05	MF6R12	5120128-08	S	Field_Sample	12/10/2015	17:25:20	7439-97-6	Mercury	0.11	U	mg/kg	0.11	12/08/2015	12/10/2015	12/09/2015	87.3	0.5	100	CV	TF-12-05
45671	MF6R05	MF6R13	5120128-09	S	Field_Sample	12/10/2015	17:27:52	7439-97-6	Mercury	0.12	U	mg/kg	0.12	12/08/2015	12/10/2015	12/09/2015	86.0	0.5	100	CV	FD-02
45671	MF6R05	MF6R14	5120128-10	S	Field_Sample	12/10/2015	17:30:24	7439-97-6	Mercury	0.010	LJ	mg/kg	0.11	12/08/2015	12/10/2015	12/09/2015	89.8	0.5	100	CV	TF-12-06
45671	MF6R05	MF6R15	5120128-11	S	Field_Sample	12/10/2015	17:32:56	7439-97-6	Mercury	0.12	U	mg/kg	0.12	12/08/2015	12/10/2015	12/09/2015	85.2	0.5	100	CV	WIL-20
45671	MF6R05	MF6R16	5120128-12	S	Field_Sample	12/10/2015	17:35:27	7439-97-6	Mercury	0.12	U	mg/kg	0.12	12/08/2015	12/10/2015	12/09/2015	85.7	0.5	100	CV	WIL-35
45671	MF6R05	MF6R17	5120128-13	S	Field_Sample	12/10/2015	17:37:59	7439-97-6	Mercury	0.0057	LJ	mg/kg	0.12	12/08/2015	12/10/2015	12/09/2015	85.9	0.5	100	CV	WIL-14
45671	MF6R05	MF6R05	5120128-01	S	Field_Sample	12/15/2015	14:54:46	57-12-5	Cyanide	0.60	U	mg/kg	0.60	12/07/2015	12/15/2015	12/09/2015	83.3	1	50	AS	WIL-30
45671	MF6R05	MF6R06	5120128-02	S	Field_Sample	12/15/2015	14:57:16	57-12-5	Cyanide	0.59	U	mg/kg	0.59	12/07/2015	12/15/2015	12/09/2015	84.8	1	50	AS	WIL-29
45671	MF6R05	MF6R07	5120128-03	S	Field_Sample	12/15/2015	14:58:06	57-12-5	Cyanide	0.58	U	mg/kg	0.58	12/07/2015	12/15/2015	12/09/2015	86.7	1	50	AS	WIL-05
45671	MF6R05	MF6R08	5120128-04	S	Field_Sample	12/15/2015	14:58:56	57-12-5	Cyanide	0.58	U	mg/kg	0.58	12/07/2015	12/15/2015	12/09/2015	86.7	1	50	AS	WIL-25
45671	MF6R05	MF6R09	5120128-05	S	Field_Sample	12/15/2015	14:59:46	57-12-5	Cyanide	0.58	U	mg/kg	0.58	12/07/2015	12/15/2015	12/09/2015	85.5	1	50	AS	TF-11-03
45671	MF6R05	MF6R10	5120128-06	S	Field_Sample	12/15/2015	15:00:36	57-12-5	Cyanide	0.58	U	mg/kg	0.58	12/08/2015	12/15/2015	12/09/2015	86.1	1	50	AS	TF-11-05
45671	MF6R05	MF6R11	5120128-07	S	Field_Sample	12/15/2015	15:01:26	57-12-5	Cyanide	0.58	U	mg/kg	0.58	12/08/2015	12/15/2015	12/09/2015	86.0	1	50	AS	TF-12-01
45671	MF6R05	MF6R12	5120128-08	S	Field_Sample	12/15/2015	15:02:16	57-12-5	Cyanide	0.57	U	mg/kg	0.57	12/08/2015	12/15/2015	12/09/2015	87.3	1	50	AS	TF-12-05
45671	MF6R05	MF6R13	5120128-09	S	Field_Sample	12/15/2015	15:03:06	57-12-5	Cyanide	0.58	U	mg/kg	0.58	12/08/2015	12/15/2015	12/09/2015	86.0	1	50	AS	FD-02
45671	MF6R05	MF6R14	5120128-10	S	Field_Sample	12/15/2015	15:03:56	57-12-5	Cyanide	0.56	U	mg/kg	0.56	12/08/2015	12/15/2015	12/09/2015	89.8	1	50	AS	TF-12-06
45671	MF6R05	MF6R15	5120128-11	S	Field_Sample	12/15/2015	15:04:46	57-12-5	Cyanide	0.59	U	mg/kg	0.59	12/08/2015	12/15/2015	12/09/2015	85.2	1	50	AS	WIL-20
45671	MF6R05	MF6R16	5120128-12	S	Field_Sample	12/15/2015	15:05:36	57-12-5	Cyanide	0.58	U	mg/kg	0.58	12/08/2015	12/15/2015	12/09/2015	85.7	1	50	AS	WIL-35
45671	MF6R05	MF6R17	5120128-13	S	Field_Sample	12/15/2015	15:06:26	57-12-5	Cyanide	0.58	U	mg/kg	0.58	12/08/2015	12/15/2015	12/09/2015	85.9	1	50	AS	WIL-14

INORGANIC/ORGANIC COMPLETE SDG FILE (CSF) INVENTORY CHECKLIST

Case No.	45671	SDG No.	MF6R05	SDG Nos. To Follow	Mod. Ref. No.	2542.1	Date Rec	12/30/15
EPA Lab ID:			BON			ORIGINALS		
Lab location:			Hattiesburg, MS			CUSTODY SEALS	YES	NO
Region:			6 Audit No.:			1. Present on package?	X	
Resubmitted CSF?			Yes _____ No <input checked="" type="checkbox"/>			2. Intact upon receipt?	X	
Box No(s):			1			FORM DC-2		
COMMENTS: 14/15 Sample tags were not required for this case.								
						3. Numbering scheme accurate?	X	
						4. Are enclosed documents listed?	X	
						5. Are listed documents enclosed?	X	
						FORM DC-1		
						6. Present?	X	
						7. Complete?	X	
						8. Accurate?	X	
						TRAFFIC REPORT/CHAIN-OF-CUSTODY RECORD(s)		
						9. Signed?	X	
						10. Dated?	X	
AIRBILLS/AIRBILL STICKER								
						11. Present?	X	
						12. Signed?	X	
						13. Dated?	X	
						SAMPLE TAGS		
						14. Does DC-1 list tags as being included?		X
						15. Present?		X
OTHER DOCUMENTS								
						16. Complete?	X	
						17. Legible?	X	
						18. Original?	X	
						18a. If "NO", does the copy indicate where original documents are located?		X
Over for additional comments.								

Audited
by:

Sonya Meekins/ESAT Data Reviewer

Date 01/08/16

Audited
by:

Date

Signature

Printed Name/Title

DC-2

In Reference To Case No(s):
45671 SDG: MF6R05 (I-0679)

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Resubmission Request

Laboratory Name:	BON
Lab Contact:	Chris Bonner
Region:	6
Regional Contact:	Raymond Flores - EPA
ESAT Reviewer:	Sonya Meekins - ESAT

In reference to data for the following fractions:

ICP-MS

Summary of Questions/Issues:

The non-blank standard at or below the MA 2542.1 CRQL for thallium was not reported on Form 15 as required by Section II of MA 2542.1. Please make the necessary corrections and resubmissions with the pages properly paginated.

NOTE: Any submitted laboratory resubmission should be clearly marked as "Additional Data" with a cover letter included describing what data is being delivered, which Case the data pertains, and who requested the data (ISM02.3, p. B-9, sec. 2.2.1). Custody seals are required only for regular mail shipments.

Please respond to the above item **within 5 business days** (ISM02.3, p. B-9, sec. 2.2.1) by e-mail to Flores.Raymond@epa.gov. If you have any questions, please contact Mr. Flores at 281-983-2139.

Distribution: (1) Lab Copy, (2) Region Copy, and (3) ESAT Copy

USEPA CLP COC (LAB COPY)

Date Shipped: 12/8/2015

Carrier Name: FedEx

Airbill No: 859483220031

CHAIN OF CUSTODY RECORD

No: 6-120815-180612-0008

Lab: Bonner Analytical Testing Company - BON

Lab Contact: Chris Bonner

Lab Phone: 601-264-2854

Case #: 45671

Cooler #:

EPW14029
MF6R05

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
277-0006	MF6R05 QC	Soil/ SERAS	Discrete Interval	TMs+Hg+Cn(21)	1048 (4 C) (1)	WIL-30	12/07/2015 09:45	
277-0007	MF6R06	Soil/ SERAS	Discrete Interval	TMs+Hg+Cn(21)	1055 (4 C) (1)	WIL-29	12/07/2015 10:30	
277-0008	MF6R07	Soil/ SERAS	Discrete Interval	TMs+Hg+Cn(21)	1062 (4 C) (1)	WIL-05	12/07/2015 12:20	
277-0009	MF6R08	Soil/ SERAS	Discrete Interval	TMs+Hg+Cn(21)	1069 (4 C) (1)	WIL-25	12/07/2015 14:40	
277-0010	MF6R09	Soil/ SERAS	Discrete Interval	TMs+Hg+Cn(21)	1076 (4 C) (1)	TF-11-03	12/07/2015 16:15	
277-0011	MF6R10	Soil/ SERAS	Discrete Interval	TMs+Hg+Cn(21)	1083 (4 C) (1)	TF-11-05	12/08/2015 08:40	
277-0012	MF6R11	Soil/ SERAS	Discrete Interval	TMs+Hg+Cn(21)	1090 (4 C) (1)	TF-12-01	12/08/2015 09:50	
277-0013	MF6R12	Soil/ SERAS	Discrete Interval	TMs+Hg+Cn(21)	1097 (4 C) (1)	TF-12-05	12/08/2015 11:15	
277-0014	MF6R13	Soil/ SERAS	Discrete Interval	TMs+Hg+Cn(21)	1104 (4 C) (1)	FD-02	12/08/2015 11:15	
277-0015	MF6R14	Soil/ SERAS	Discrete Interval	TMs+Hg+Cn(21)	1111 (4 C) (1)	TF-12-06	12/08/2015 12:10	

Sample(s) to be used for Lab QC: 277-0006 Tag 1048, 277-0016 Tag 1118 - Special Instructions: ICP-AES for Aluminum, Calcium, Iron, Magnesium, Potassium, Sodium.

ICP-MS for Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

Analysis Key: TMs+Hg+Cn=Total Metals ICP-AES +Hg+Cn by ISM02.3, ICP-MS by ISM02.3/MA#2542.1

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
No/Analysis	Jerry Lm SERAS	12/8/15 1715	P. Aik Bon	1019 12-9-15	good

USEPA CLP COC (LAB COPY)

DateShipped: 12/8/2015

CarrierName: FedEx

AirbillNo: 859483220031

CHAIN OF CUSTODY RECORD

Case #: 4567

Cooler

No: 6-120815-180612-0008

Lab: Bonner Analytical Testing Company - BON

Lab Contact: Chris Bonner

Lab Phone: 601-264-2854

Sample(s) to be used for Lab QC: 277-0016 Tag 1118 - Special Instructions: ICP-AES for Aluminum, Calcium, Iron, Magnesium, Potassium, Sodium.

Shipment for Case Complete? N

ICP-MS for Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

Samples Transferred From Chain of Custody #

Analysis Kev: TMs+Hg+Cn=TotalMetals ICP-AES +Hg+Cn by ISM02.3 ICP-MS by ISM02.3/MA#2542.2

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
AU/ANALYSIS	John Umseras	12/8/15 11:15	P. A. H. Ban	10/19 12-9-15	good

ADDENDUM

Data Validation Report

Page 1

Data Review Results

Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

HoldingTimes_Preservation

Method - Metals by ICP-AES

Test Name: EXES-462

Defect Message: The following soil samples were not maintained at = 6°C (but not frozen) from time of collection until receipt at the laboratory. Use Professional Judgement to qualify detects as J- and nondetects as R.

Associated Samples: MF6R05, MF6R05L, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

MF6R09, MF6R08, MF6R07, MF6R06, MF6R05, MF6R05L, MF6R05D, MF6R12, MF6R13, MF6R10, MF6R11, MF6R16, MF6R17, MF6R14, MF6R15

Method - Metals by ICP-MS

Test Name: EXES-462

Defect Message: The following soil samples were not maintained at = 6°C (but not frozen) from time of collection until receipt at the laboratory. Use Professional Judgement to qualify detects as J- and nondetects as R.

Associated Samples: MF6R05, MF6R05A, MF6R05L, MF6R05S, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

MF6R09, MF6R08, MF6R07, MF6R05S, MF6R06, MF6R05, MF6R05L, MF6R05D, MF6R12, MF6R13, MF6R10, MF6R11, MF6R16, MF6R17, MF6R14, MF6R15, MF6R05A

Method - Mercury by Cold Vapor

Test Name: EXES-462

Defect Message: The following soil samples were not maintained at = 6°C (but not frozen) from time of collection until receipt at the laboratory. Use Professional Judgement to qualify detects as J- and nondetects as R.

Associated Samples: MF6R05, MF6R05S, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

MF6R09, MF6R08, MF6R05S, MF6R07, MF6R06, MF6R05, MF6R05D, MF6R12, MF6R13, MF6R10, MF6R11, MF6R16, MF6R17, MF6R14, MF6R15

Data Validation Report

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Data Review Results

Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02,3

Method - Cyanide

Test Name: EXES-462

Defect Message: The following soil samples were not maintained at = 6°C (but not frozen) from time of collection until receipt at the laboratory. Use Professional Judgement to qualify detects as J- and nondetects as R.

Associated Samples: MF6R05, MF6R05S, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

MF6R09, MF6R08, MF6R07, MF6R05S, MF6R06, MF6R05, MF6R05D, MF6R12, MF6R13, MF6R10, MF6R11, MF6R16, MF6R17, MF6R14, MF6R15

Data Validation Report

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Data Review Results

Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

TUNE

NONE FOUND

Data Validation Report

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Data Review Results

Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

InitialCalibration

NONE FOUND

Data Validation Report

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Data Review Results

Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

Continuing Calibration Verification

NONE FOUND

Data Validation Report

Data Review Results

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Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

Blanks

Method - Metals by ICP-AES

Test Name: EXES-1342

Defect Message: The following samples have analyte results less than or equal to CRQLs. The associated CCB analyte results are less than or equal to CRQLs. Detects are qualified as U. Sample results are reported at CRQLs.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R16, MF6R17

Calcium	MF6R16, MF6R08, MF6R09, MF6R13
Magnesium	MF6R08
Sodium	MF6R08, MF6R05, MF6R14, MF6R16, MF6R10, MF6R12, MF6R09, MF6R07, MF6R11, MF6R06, MF6R17, MF6R13

Test Name: EXES-478

Defect Message: The following samples have analyte results greater than CRQLs. The associated ICB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Aluminum	MF6R15, MF6R16, MF6R08, MF6R06, MF6R13, MF6R07, MF6R09, MF6R11, MF6R05, MF6R10, MF6R14, MF6R17, MF6R12
Calcium	MF6R17, MF6R07, MF6R12, MF6R06, MF6R05, MF6R14, MF6R10, MF6R11, MF6R15
Iron	MF6R13, MF6R09, MF6R15, MF6R16, MF6R10, MF6R11, MF6R07, MF6R08, MF6R17, MF6R06, MF6R14, MF6R05, MF6R12
Magnesium	MF6R10, MF6R17, MF6R16, MF6R06, MF6R14, MF6R13, MF6R12, MF6R05, MF6R15, MF6R09, MF6R11, MF6R07
Potassium	MF6R08, MF6R14, MF6R09, MF6R05, MF6R06, MF6R12, MF6R11, MF6R10, MF6R17, MF6R13, MF6R16, MF6R15, MF6R07
Sodium	MF6R15

Test Name: EXES-479

Defect Message: The following samples have analyte results greater than CRQLs. The associated CCB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Aluminum	MF6R09, MF6R07, MF6R16, MF6R12, MF6R17, MF6R15, MF6R11, MF6R14, MF6R10, MF6R13, MF6R06, MF6R05, MF6R08
Calcium	MF6R12, MF6R15, MF6R17, MF6R07, MF6R10, MF6R05, MF6R06, MF6R11, MF6R15
Iron	MF6R09, MF6R15, MF6R13, MF6R16, MF6R10, MF6R06, MF6R05, MF6R11, MF6R14, MF6R08, MF6R12, MF6R07, MF6R17
Magnesium	MF6R10, MF6R17, MF6R16, MF6R06, MF6R14, MF6R13, MF6R12, MF6R05, MF6R15, MF6R09, MF6R11, MF6R07
Potassium	MF6R08, MF6R14, MF6R09, MF6R05, MF6R06, MF6R12, MF6R11, MF6R10, MF6R17, MF6R13, MF6R16, MF6R07, MF6R15
Sodium	MF6R15

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Data Review Results

Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

Test Name: EXES-480

Defect Message: The following samples are associated with CCB that has analyte results less than or equal to (-MDLs) but greater than or equal to (-CRQLs). Use Professional Judgement to qualify detects and nondetects.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Aluminum	MF6R14, MF6R09, MF6R16, MF6R12, MF6R17, MF6R08, MF6R06, MF6R15, MF6R13, MF6R07, MF6R11, MF6R05, MF6R10
Iron	MF6R14, MF6R17, MF6R08, MF6R09, MF6R10, MF6R16, MF6R13, MF6R06, MF6R15, MF6R11, MF6R12, MF6R07, MF6R05
Magnesium	MF6R05, MF6R10, MF6R17, MF6R15, MF6R14, MF6R09, MF6R11, MF6R13, MF6R16, MF6R07, MF6R06, MF6R08, MF6R12
Potassium	MF6R09, MF6R10, MF6R12, MF6R14, MF6R13, MF6R11, MF6R15, MF6R16, MF6R08, MF6R17, MF6R07, MF6R05, MF6R06
Sodium	MF6R13, MF6R15, MF6R17, MF6R06, MF6R11, MF6R12, MF6R08, MF6R05, MF6R14, MF6R10, MF6R09, MF6R07, MF6R16

Test Name: EXES-481

Defect Message: The following samples are associated with ICB that has analyte results less than or equal to (-MDLs) but greater than or equal to (-CRQLs). Use Professional Judgement to qualify detects and nondetects.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Aluminum	MF6R15, MF6R05, MF6R07, MF6R13, MF6R08, MF6R06, MF6R14, MF6R12, MF6R16, MF6R09, MF6R11, MF6R10, MF6R17
Calcium	MF6R05, MF6R14, MF6R11, MF6R06, MF6R07, MF6R15, MF6R08, MF6R17, MF6R10, MF6R13, MF6R09, MF6R12, MF6R16
Iron	MF6R07, MF6R11, MF6R08, MF6R05, MF6R15, MF6R16, MF6R17, MF6R14, MF6R06, MF6R09, MF6R13, MF6R12, MF6R10
Magnesium	MF6R05, MF6R13, MF6R14, MF6R06, MF6R16, MF6R17, MF6R12, MF6R07, MF6R08, MF6R11, MF6R09, MF6R15, MF6R10
Potassium	MF6R06, MF6R05, MF6R07, MF6R17, MF6R08, MF6R16, MF6R09, MF6R11, MF6R13, MF6R14, MF6R12, MF6R10, MF6R15
Sodium	MF6R13, MF6R15, MF6R17, MF6R06, MF6R11, MF6R12, MF6R08, MF6R05, MF6R14, MF6R10, MF6R09, MF6R07, MF6R16

Test Name: EXES-508

Defect Message: The following samples have analyte results greater than CRQLs. The associated PB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Aluminum	MF6R10, MF6R08, MF6R06, MF6R05, MF6R13, MF6R07, MF6R15, MF6R12, MF6R16, MF6R14, MF6R09, MF6R11, MF6R17
Iron	MF6R09, MF6R10, MF6R16, MF6R13, MF6R11, MF6R15, MF6R17, MF6R08, MF6R06, MF6R07, MF6R05, MF6R14, MF6R12
Potassium	MF6R10, MF6R12, MF6R14, MF6R13, MF6R11, MF6R15, MF6R16, MF6R08, MF6R17, MF6R07, MF6R09, MF6R06, MF6R05
Sodium	MF6R15

Test Name: EXES-549

Defect Message: The following samples are associated with PB that has analyte results less than or equal to (-MDL) but greater than or equal to (-CRQL). Use Professional Judgement to qualify detects and nondetects.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

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Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

Test Name: EXES-549**Defect Message:** The following samples are associated with PB that has analyte results less than or equal to (-MDL) but greater than or equal to (-CRQL). Use Professional Judgement to qualify detects and nondetects.**Associated Samples:** MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Aluminum	MF6R14, MF6R06, MF6R11, MF6R15, MF6R10, MF6R09, MF6R17, MF6R13, MF6R07, MF6R08, MF6R16, MF6R12, MF6R05
Iron	MF6R13, MF6R10, MF6R16, MF6R15, MF6R17, MF6R12, MF6R05, MF6R07, MF6R08, MF6R11, MF6R14, MF6R09, MF6R06
Potassium	MF6R11, MF6R15, MF6R16, MF6R08, MF6R17, MF6R07, MF6R05, MF6R06, MF6R09, MF6R10, MF6R12, MF6R14, MF6R13
Sodium	MF6R11, MF6R06, MF6R17, MF6R15, MF6R16, MF6R09, MF6R14, MF6R13, MF6R12, MF6R08, MF6R10, MF6R05, MF6R07

Method - Metals by ICP-MS

Test Name: EXES-1342**Defect Message:** The following samples have analyte results less than or equal to CRQLs. The associated CCB analyte results are less than or equal to CRQLs. Detects are qualified as U. Sample results are reported at CRQLs.**Associated Samples:** MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Antimony	MF6R15
Beryllium	MF6R10, MF6R16, MF6R07, MF6R14, MF6R17, MF6R09, MF6R05, MF6R12, MF6R08, MF6R13, MF6R06, MF6R11
Cadmium	MF6R06, MF6R09, MF6R05
Selenium	MF6R11, MF6R09, MF6R16, MF6R17, MF6R14, MF6R08, MF6R07, MF6R15, MF6R10, MF6R06, MF6R05
Silver	MF6R05, MF6R13, MF6R15, MF6R17, MF6R06, MF6R16, MF6R11, MF6R12, MF6R14, MF6R10, MF6R09
Thallium	MF6R17, MF6R05, MF6R07, MF6R06, MF6R15, MF6R10, MF6R09, MF6R12, MF6R16, MF6R14, MF6R11

Test Name: EXES-476**Defect Message:** The following samples have analyte results less than or equal to CRQLs. The associated ICB analyte results are less than or equal to CRQLs. Detects are qualified as U. Sample results are reported at CRQLs.**Associated Samples:** MF6R05, MF6R06, MF6R07, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Cadmium	MF6R09, MF6R06, MF6R05
Silver	MF6R14, MF6R16, MF6R11, MF6R12, MF6R17, MF6R13, MF6R05, MF6R10, MF6R15, MF6R06, MF6R09
Thallium	MF6R09, MF6R10, MF6R06, MF6R07, MF6R15, MF6R17, MF6R14, MF6R12, MF6R16, MF6R11, MF6R05

Test Name: EXES-478**Defect Message:** The following samples have analyte results greater than CRQLs. The associated ICB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects.**Associated Samples:** MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

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Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

Test Name: EXES-478

Defect Message: The following samples have analyte results greater than CRQLs. The associated ICB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Arsenic	MF6R05, MF6R16, MF6R17, MF6R12, MF6R06, MF6R14, MF6R15, MF6R13, MF6R10, MF6R08, MF6R09, MF6R11, MF6R07
Barium	MF6R07, MF6R05, MF6R06, MF6R14, MF6R17, MF6R15, MF6R10, MF6R09, MF6R16, MF6R11, MF6R12, MF6R13, MF6R08
Beryllium	MF6R15
Chromium	MF6R05, MF6R13, MF6R06, MF6R12, MF6R07, MF6R08, MF6R14, MF6R17, MF6R15, MF6R16, MF6R11, MF6R09, MF6R10
Cobalt	MF6R09, MF6R10, MF6R06, MF6R15, MF6R08, MF6R13, MF6R16, MF6R12, MF6R07, MF6R17, MF6R14, MF6R11, MF6R05
Copper	MF6R12, MF6R17, MF6R08, MF6R11, MF6R16, MF6R09, MF6R13, MF6R15, MF6R10, MF6R07, MF6R05, MF6R14, MF6R06
Lead	MF6R17, MF6R16, MF6R06, MF6R13, MF6R15, MF6R12, MF6R08, MF6R09, MF6R11, MF6R05, MF6R07, MF6R10, MF6R14
Manganese	MF6R15, MF6R06, MF6R16, MF6R11, MF6R08, MF6R05, MF6R07, MF6R17, MF6R13, MF6R14, MF6R10, MF6R09, MF6R12
Nickel	MF6R10, MF6R15, MF6R08, MF6R11, MF6R09, MF6R13, MF6R05, MF6R06, MF6R07, MF6R12, MF6R17, MF6R14, MF6R16
Vanadium	MF6R08, MF6R07, MF6R11, MF6R15, MF6R10, MF6R14, MF6R09, MF6R16, MF6R17, MF6R12, MF6R13, MF6R06, MF6R05
Zinc	MF6R08, MF6R16, MF6R06, MF6R11, MF6R10, MF6R05, MF6R17, MF6R14, MF6R09, MF6R07, MF6R12, MF6R13, MF6R15

Test Name: EXES-479

Defect Message: The following samples have analyte results greater than CRQLs. The associated CCB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Arsenic	MF6R06, MF6R10, MF6R08, MF6R14, MF6R05, MF6R16, MF6R17, MF6R12, MF6R15, MF6R13, MF6R11, MF6R07, MF6R09
Barium	MF6R14, MF6R06, MF6R17, MF6R08, MF6R12, MF6R07, MF6R05, MF6R11, MF6R16, MF6R09, MF6R10, MF6R15, MF6R13
Beryllium	MF6R15
Chromium	MF6R10, MF6R06, MF6R13, MF6R08, MF6R14, MF6R17, MF6R16, MF6R15, MF6R07, MF6R11, MF6R12, MF6R09, MF6R05
Cobalt	MF6R09, MF6R10, MF6R06, MF6R15, MF6R08, MF6R13, MF6R16, MF6R12, MF6R07, MF6R17, MF6R14, MF6R11, MF6R05
Copper	MF6R12, MF6R17, MF6R08, MF6R11, MF6R16, MF6R09, MF6R13, MF6R15, MF6R10, MF6R07, MF6R05, MF6R14, MF6R06
Lead	MF6R17, MF6R16, MF6R13, MF6R06, MF6R15, MF6R12, MF6R08, MF6R09, MF6R11, MF6R05, MF6R07, MF6R10, MF6R14
Manganese	MF6R15, MF6R16, MF6R06, MF6R11, MF6R08, MF6R05, MF6R07, MF6R17, MF6R13, MF6R14, MF6R10, MF6R09, MF6R12
Nickel	MF6R10, MF6R15, MF6R08, MF6R11, MF6R09, MF6R13, MF6R05, MF6R06, MF6R07, MF6R14, MF6R17, MF6R12, MF6R16
Vanadium	MF6R08, MF6R07, MF6R11, MF6R15, MF6R10, MF6R14, MF6R09, MF6R16, MF6R17, MF6R12, MF6R13, MF6R06, MF6R05
Zinc	MF6R16, MF6R08, MF6R11, MF6R06, MF6R10, MF6R05, MF6R17, MF6R14, MF6R09, MF6R07, MF6R12, MF6R13, MF6R15

Test Name: EXES-480

Defect Message: The following samples are associated with CCB that has analyte results less than or equal to (-MDLs) but greater than or equal to (-CRQLs). Use Professional Judgement to qualify detects and nondetects.

Associated Samples: MF6R15

Copper	MF6R15
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Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

Test Name: EXES-508

Defect Message: The following samples have analyte results greater than CRQLs. The associated PB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects.

Associated Samples: MF6R05, MF6R06, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Barium	MF6R17, MF6R10, MF6R09, MF6R16, MF6R11, MF6R12, MF6R13, MF6R08, MF6R15, MF6R07, MF6R05, MF6R06, MF6R14
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Manganese	MF6R09, MF6R12, MF6R10, MF6R14, MF6R13, MF6R05, MF6R15, MF6R17, MF6R11, MF6R16, MF6R06, MF6R07, MF6R08
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Method - Mercury by Cold Vapor

Test Name: EXES-478

Defect Message: The following samples have analyte results greater than CRQLs. The associated ICB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects.

Associated Samples: MF6R06

Mercury	MF6R06
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Test Name: EXES-479

Defect Message: The following samples have analyte results greater than CRQLs. The associated CCB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects.

Associated Samples: MF6R06

Mercury	MF6R06
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Test Name: EXES-480

Defect Message: The following samples are associated with CCB that has analyte results less than or equal to (-MDLs) but greater than or equal to (-CRQLs). Use Professional Judgement to qualify detects and nondetects.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Mercury	MF6R05, MF6R12, MF6R09, MF6R16, MF6R06, MF6R11, MF6R17, MF6R10, MF6R13, MF6R07, MF6R15, MF6R14, MF6R08
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Data Review Results

Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

Test Name: EXES-481

Defect Message: The following samples are associated with ICB that has analyte results less than or equal to (-MDLs) but greater than or equal to (-CRQLs). Use Professional Judgement to qualify detects and nondetects.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Mercury

MF6R05, MF6R12, MF6R09, MF6R16, MF6R06, MF6R11, MF6R17, MF6R10, MF6R13, MF6R07, MF6R15, MF6R14, MF6R08

Method - Cyanide**Test Name: EXES-1342**

Defect Message: The following samples have analyte results less than or equal to CRQLs. The associated CCB analyte results are less than or equal to CRQLs. Detects are qualified as U. Sample results are reported at CRQLs.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Cyanide MF6R05, MF6R11, MF6R12, MF6R09, MF6R16, MF6R14, MF6R07, MF6R15, MF6R10, MF6R06, MF6R17, MF6R08, MF6R13

Test Name: EXES-476

Defect Message: The following samples have analyte results less than or equal to CRQLs. The associated ICB analyte results are less than or equal to CRQLs. Detects are qualified as U. Sample results are reported at CRQLs.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Cyanide MF6R05, MF6R11, MF6R12, MF6R09, MF6R16, MF6R14, MF6R07, MF6R10, MF6R15, MF6R06, MF6R17, MF6R08, MF6R13

Test Name: EXES-477

Defect Message: The following samples have analyte results less than or equal to CRQLs. The associated CCB analyte results are less than or equal to CRQLs. Detects are qualified as U. Sample results are reported at CRQLs.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Cyanide MF6R05, MF6R11, MF6R12, MF6R09, MF6R16, MF6R14, MF6R07, MF6R10, MF6R15, MF6R06, MF6R17, MF6R08, MF6R13

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Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

InterferenceCheckSample

NONE FOUND

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Data Review Results

Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

LaboratoryControlSample

NONE FOUND

Data Validation Report

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Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

MatrixSpikes

Method - Metals by ICP-MS

Test Name: EXES-1355

Defect Message: The following samples are associated with Matrix Spike sample that has spike analyte %R within 30 - 74% and Post-digestion spike analyte %R greater than or equal to 75%. Detects are qualified as J. Nondetects are qualified as UJ.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Antimony	MF6R05A
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Test Name: EXES-592

Defect Message: The following samples are associated with Matrix Spike sample that has spike analyte %R within 30 - 74% and Post-digestion spike analyte %R greater than or equal to 75%. Detects are qualified as J. Nondetects are qualified as UJ.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Manganese	MF6R05A
Zinc	MF6R05A

Test Name: EXES-594

Defect Message: The following samples are associated with Matrix Spike sample that has spike analyte %R greater than 125% and Post-digestion spike analyte %R less than or equal to 125%. Detects are qualified as J. Nondetects are not qualified.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Selenium	MF6R05A
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Data Review Results

Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

SerialDilution

Method - Metals by ICP-MS

Test Name: EXES-1334

Defect Message: The following samples are associated to the Serial Dilution sample with analyte absolute value %D >10% and the original sample result is > 50xMDL.

Detects are qualified as estimated J. Non-detects are qualified estimated UJ.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17

Zinc	MF6R05L
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Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

InternalStandard

NONE FOUND

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Data Review Results

Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

DetectionLimit

Method - Metals by ICP-AES

Test Name: EXES-790

Defect Message: The following samples have analyte results greater than or equal to detection limit (MDL) and below quantitation limit (CRQL). Detects are qualified as estimated J.

Associated Samples: MF6R05, MF6R05L, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R16, MF6R17

Calcium	MF6R16, MF6R08, MF6R09, MF6R13, MF6R05L
Magnesium	MF6R08, MF6R05L
Potassium	MF6R05L
Sodium	MF6R14, MF6R16, MF6R10, MF6R07, MF6R05D, MF6R11, MF6R09, MF6R06, MF6R17, MF6R05, MF6R13, MF6R12, MF6R08

Method - Metals by ICP-MS

Test Name: EXES-790

Defect Message: The following samples have analyte results greater than or equal to detection limit (MDL) and below quantitation limit (CRQL). Detects are qualified as estimated J.

Associated Samples: MF6R05, MF6R05L, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17, PBS01

Antimony	MF6R15
Arsenic	MF6R05L
Barium	PBS01
Beryllium	MF6R16, MF6R10, MF6R05D, MF6R07, MF6R14, MF6R17, MF6R09, MF6R05, MF6R12, MF6R08, MF6R13, MF6R06, MF6R11, MF6R05L
Cadmium	MF6R06, MF6R05D, MF6R05, MF6R05L, MF6R09
Manganese	PBS01
Selenium	MF6R06, MF6R10, MF6R05D, MF6R14, MF6R09, MF6R11, MF6R08, MF6R05L, MF6R07, MF6R16, MF6R17, MF6R05, MF6R15
Silver	MF6R11, MF6R10, MF6R16, MF6R17, MF6R05, MF6R05D, MF6R13, MF6R06, MF6R14, MF6R05L, MF6R12, MF6R15, MF6R09
Thallium	MF6R17, MF6R05D, MF6R05, MF6R12, MF6R14, MF6R05L, MF6R11, MF6R07, MF6R06, MF6R16, MF6R09, MF6R10, MF6R15
Vanadium	MF6R05L

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Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

Method - Mercury by Cold Vapor

Test Name: EXES-790

Defect Message: The following samples have analyte results greater than or equal to detection limit (MDL) and below quantitation limit (CRQL). Detects are qualified as estimated J.

Associated Samples: MF6R05, MF6R14, MF6R17

Mercury	MF6R05, MF6R17, MF6R14, MF6R05D
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Method - Cyanide

Test Name: EXES-790

Defect Message: The following samples have analyte results greater than or equal to detection limit (MDL) and below quantitation limit (CRQL). Detects are qualified as estimated J.

Associated Samples: MF6R05, MF6R06, MF6R07, MF6R08, MF6R09, MF6R10, MF6R11, MF6R12, MF6R13, MF6R14, MF6R15, MF6R16, MF6R17, PBS01

Cyanide	MF6R05D, MF6R07, MF6R05, MF6R11, MF6R12, MF6R09, MF6R16, MF6R14, MF6R13, MF6R15, MF6R10, MF6R06, MF6R17, MF6R08, PBS01
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Data Review Results

Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

Duplicates

NONE FOUND

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Data Review Results

Thu, 31 Dec 2015 12:03:43

Lab Code: BON

SDG: MF6R05

Contract: EPW14029

Submission Group Id: 30113599

Lab Name: Bonner Analytical Testing Co.

Case: 45671

Client: EPA Region 6

SOW: ISM02.3

Sample Analysis

NONE FOUND